IN THE CLAIMS:

1   Claims 1-3 (Canceled)

1   4. (Currently amended) A method <u>executed in a computer system having at</u>
2   <u>least one processor for</u> ~~of~~ determining ~~the~~ axial rotation of a pelvis from a single
3   fluoroscopic image, comprising
4   A. <u>receiving</u> ~~forming~~ a fluoroscopic image of said pelvis in the near AP
5   direction;
6   B. defining first and second landmarks of said pelvis on said image, said
7   landmarks separated from each other in at least an anterior-posterior direction;
8   C. determining the transaxial displacement of said landmarks on said image;
9   <u>and</u>
10   D. using said displacement <u>to determine</u> ~~as a measure of~~ the axial rotation of
11   said pelvis with respect to the plane of said fluoroscopic image.

1   5. (Original) A method according to claim 4 in which said first landmark
2   comprises the image point of the pubic symphysis.

1   6. (Original) A method according to claim 5 in which said second landmark
2   comprises the midpoint of a line between the image points of the left and right
3   sacroiliac joints.

1   7. (Original) A method according to claim 4 in which said displacement is
2   normalized with respect to the separation between a further pair of landmarks.

1   8. (Original) A method according to claim 7 in which said further pair of
2   landmarks comprises the left and right teardrops.

9. (Currently amended) A method <u>executed in a computer system having at</u> <u>least one processor for</u> ~~of~~ determining the transaxial rotation of a pelvis from a single fluoroscopic image, comprising

A. <u>receiving</u> ~~forming~~ a fluoroscopic image of said pelvis in the near AP direction;

B. defining first and second landmarks of said pelvis on said image, said landmarks separated from each other in at least an anterior-posterior direction;

C. determining the axial displacement of said landmarks on said image; <u>and</u>

D. using said displacement as a measure of the transaxial rotation of said pelvis with respect to the plane of said fluoroscopic image.

10. (Original) A method according to claim 9 in which said first landmark comprises the image point of the pubic symphysis.

11. (Original) A method according to claim 10 in which said second landmark comprises the midpoint of a line between the image points of the left and right sacroiliac joints.

12. (Original) A method according to claim 11 in which said displacement is normalized with respect to the separation between a further pair of landmarks.

13. (Original) A method according to claim 12 in which said further pair of landmarks comprises the left and right teardrops.

14. (Original) A method according to claim 12 in which the transaxial rotation is taken as a function of the relation of said displacement to the corresponding displacements on the fluoroscopic images of a sample of pelvises taken at known orientation to the fluoroscopic image plane.

15. (New) A computer-readable medium comprising instructions executable by at least one processing entity for determining a patient-specific pelvic coordinate system from a single near AP intra-operative image of the patient, the medium comprising:

instructions to receive a single intra-operative fluoroscopic image of the patient's pelvis in the near AP direction;

instructions to define first and second landmarks of said pelvis on said image, said landmarks being separated from each other in at least an anterior-posterior direction;

instructions to determine the transaxial displacement of said landmarks on said image;

instructions to determine the axial displacement of said landmarks on said image;

instructions to calculate an axial rotation of said pelvis with respect to the plane of said image based on the transaxial displacement, and

instructions to calculate a transaxial rotation of said pelvis with the respect to the plane of said image based on the axial displacement.

16. (New) The computer-readable medium of claim 15 wherein said first landmark comprises the image point of the pubic symphysis.

17. (New) The computer-readable medium of claim 15 wherein the second landmark comprises the midpoint of a line between corresponding points on said image of the left and right sacroiliac joints.

18. (New) The computer-readable medium of claim 15 wherein said displacements are normalized with respect to the separation between a further pair of landmarks on the pelvis.

19. (New) The computer-readable medium of claim 18 wherein said further pair of landmarks comprises the left and right teardrops.

20. (New) The computer-readable medium of claim 4 wherein the transaxial rotation is taken as a function of the relation of said axial displacement to the corresponding displacements of electronic images of a sample of pelvises taken at a known orientation to said fluoroscopic image.

21. (New) The computer-readable medium of claim 15 wherein the axial displacement is k, and the transaxial rotation is a function of:

$v - v_o$

where v_o is the axial displacement distance corresponding to a non-rotated pelvis.